**Sexual Reproduction in Plants**

**Structure of a Flower**

Label the diagram below:

Complete the exercise below using the most appropriate word from the list below:

Carpel Stamen Stigma Anther Ovary Ovule Pollen

Filament Style

A word may be used more than once.

The male part of the flower called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ consists of the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The female part of the flower is called the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and consists of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The male gamete is made in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and is found

inside the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ grain. The female gamete is found in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

and is called an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Match the flower part with its correct function; the first one has been done for you.

|  |  |  |
| --- | --- | --- |
| **Petal** |  | Stamen structure that produces pollen |
| **Sepal** |  | Male gamete |
| **Stigma** |  | Holds the ovule(s) and is located below the style |
| **Stamen** |  | Long slender stalk that connects the stigma to the ovary |
| **Carpel** |  | Male reproductive organ of the flower |
| **Style** |  | Green parts that surround and protect the flower when it is in bud |
| **Nectary** |  | Modified leaves that are often brightly coloured to attract pollinators |
| **Ovary** |  | Receives pollen at pollination |
| **Ovule** |  | Female reproductive organ of the flower |
| **Pollen** |  | Stamen structure that supports the anther |
| **Filament** |  | Female gamete |
| **Anther** |  | Secretes nectar and is often scented |

**[Pollination1](http://www.bbc.co.uk/education/clips/zmgs34j)**

[**Pollination**](http://www.bbc.co.uk/nature/collections/p007rdq3#p007vh5n)

What is pollination (use the words anther and stigma)

There are two main mechanisms for pollination, wind and insect. Flowers are adapted to suit the mechanism by which they are pollinated.

Identify which flower below is wind-pollinated and which is insect pollinated:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Give an example of a plant that has flowers that are insect pollinated:

Give an example of a plant that has flowers that are wind pollinated:

Complete the table which compares insect and wind pollinated plants. Use the phrases at the bottom of the page.

|  |  |  |
| --- | --- | --- |
| **Feature** | **Insect Pollinated** | **Wind Pollinated** |
| Size of Petals | (to attract insects) | (no need to attract insects) |
| Colour of Petals |  |  |
| Scent | (to attract insects) | (no need to attract insects) |
| Nectary | (no need to attract insects) | (no need to attract insects) |
| Quantity of Pollen | (less wastage as not as random) | (most does not reach the flower) |
| Pollen grain surface | (to attach to the insect) | (so it can be blown in the wind and to stop it clumping) |
| Position of anthers and stigma | (to brush against insects) | (to release and catch pollen) |
| Shape of stigma |  |  |

Large Small Scented Not scented Brightly coloured

Dull brown, green Nectar produced No Nectar produced

Small amount produced Large amount produced Outside the flower

Enclosed within the flower Small and round Large and feathery

Often sticky or spiky Usually light and smooth

Explain the difference between self-pollination and cross-pollination:

Why do plants prefer to carry out cross-pollination?

Explain two methods shown below that would help to prevent self-pollination:

**The Daily Red Maid**

**Bristol Scientists find key factor in the decline of bees**

They used to be a familiar site in the summer